

REMARKS

The Examiner has rejected claims 1-20, and 22 on the basis of 35 USC §103(a) as being unpatentable over Maenz et al with evidence from the Vincent Corp. literature referenced therein. Applicant respectfully traverses the objection on the following basis.

The present application discloses a process with two distinct stages. The first step uses passive filtration and uses an impeller-type filter. An impeller-type filter causes the slurry to be swept across the filter medium to expel filtrate from the vessel. It does not compress the slurry; instead it sweeps the slurry over the surface of the filter media to facilitate the passive drainage of liquid through the filter media.

After the impeller-type passive filter is used, applicant then uses a compression-type filter as a second stage. The compression-type filter compresses the material to be filtered, thereby squeezing liquid out of it through the filter. Compression filtration functions by progressively reducing the available volume within a vessel such that pressure is applied to the material within the vessel which mechanically forces liquid through the filter media of the vessel. See applicant's description at page 7, lines 12 - 13.

Maenz et al is distinguished from the present invention as it discloses two compression steps, rather than the impeller filtration step followed by the compression filtration step of the present application which leads to more efficient filtration with viscous slurries. The use of solely compression filtration, such as in Maenz et al, results in poor separation per unit area of filter media because of the viscous nature of the slurry. The current invention with the impeller step in step 1 permits the use of much faster speeds in the compression filter of step 2.

The Examiner has asserted that the dewatering screw press of Maenz et al. is considered to be an impeller type filter. However, the applicant respectfully disagrees. Applicant submits that the impeller filter of the present invention referred to by the Examiner is not equivalent to the screw press disclosed by Maenz et al and the Vincent

Corp literature, and it does not have the same function as the impeller filtration preliminary step of claim 1.

As seen in Figure 1, of the present invention the impeller filter consists of an auger which has the same or constant flighting throughout its length and the tube. Moreover, the tube or cylinder is not a confined vessel and is open to the atmosphere. As such compression is not and cannot be achieved with this type of impeller filtration system. On the other hand, the screw press disclosed in Maenz et al is not a passive filtration method and has a very different physical design. In particular, the flighting is not constant and is such that the area occupied by the feed is decreased from the inlet to the outlet end, creating compression against the filtration surface. Moreover, a screw press by design is a closed system with a cone on the discharge end to maintain the pressure that is accumulated during passage of material. This is not the case with the impeller filter step disclosed in claim 1(b). The compression filtration achieved with the screw press of Maenz et al would not be desirable in the present invention if used in step 1(b).

As such, claim 1 is both novel and inventive over Maenz et al and the Vincent Corp. literature.

The Examiner has raised an objection to claim 21 on the basis of §103(a) on the basis that the claim is unpatentable over Maenz et al together with Heissenberger et al with evidence from Vincent Corp. literature.

The Examiner has also rejected claim 23 on the basis of §103(a) on the basis that claim is unpatentable over Maenz et al together with Uchiyama with evidence from Vincent Corp. literature.

Applicant submits that claims 21 and 23, depend from claim 12 which is both novel and inventive for the reasons set out above. As such, claims 21 and 23 are inventive over the references cited.

As such, Applicant requests early reconsideration and allowance of the present application.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read 'D. Maravei', is written over a horizontal line.

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Dated: June 30, 2010